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ABSTRACT

Four articles report on the effectiveness of suggestive methods in foreign language instruction. Ray Benitez-Bordon reports on "Foreign Language Learning via the Lozanov Method: Pilot Studies." Results of the two studies indicate great promise for the suggestive approach, and point to the needs for further research. In "The Sandy Spring Experiment: Applying Relaxation Techniques to Education," Peter Kline describes the successes of an experimental high school Latin program using suggestopedic techniques. In the study, "The Effects of a Suggestive Learning Climate, Synchronized Breathing and Music on the Learning and Retention of Spanish Words," Benitez-Bordon and Donald H. Schuster report that all three of the methodological innovations in question had a mutually reinforcing positive effect on Spanish vocabulary acquisition. Finally, in "A Preliminary Evaluation of the Suggestive-Accelerative Lozanov Method in Teaching Beginning Spanish," Schuster concludes that the use of the Lozanov (suggestopedic) approach can lead to a given level of student performance in one-third the time of conventional methods. (JB)

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Foreign language learning via the Lozanov method: Pilot studies

Ray Benítez-Bordón
The University of Iowa

and

Donald H. Schuster
Iowa State University

Abstract

Two pilot studies were done to test the claimed superiority of the Lozanov method of foreign language training. The method emphasizes a visual and verbal suggestion format of delivery, relaxation, and listening to language instruction while soft music is playing. Results show that students gained considerable foreign language skill from pretest to posttest, thus giving partial corroboration to the claims for the method, although no control group was available for comparisons. Further research is definitely indicated.

Foreign language learning via the Lozanov method: Pilot studies * ‡

Purpose of the study

The general objectives of the two exploratory group studies were (1) to verify Ostrander and Schroeder's (1970) claim that the method could "work wonders," (2) to establish an understanding of the methodological sequence as hypothesized by the authors, and (3) to evaluate the relevance of each component's contribution toward the final expected outcome.

Introduction

Ostrander and Schroeder (1970) report that suggestopedia, a method of teaching developed by Georgii Lozanov of the University of Sofia, Bulgaria, could help in faster learning of material presented verbally. The results obtained through this method as tested at the Postgraduate Institute, the Science and Research Institute, and the Pedagogics Institute of the University of Sofia were astounding beyond reasonable expectations. Suggestopedia, as Lo-

* This study was carried out in 1971 at Iowa State University, Ames, Iowa, and in Des Moines, Iowa. It reflects knowledge of methodology of the time. It was the first formal attempt to experimentally replicate Lozanov's results.

‡ We wish to thank Drs. Oswaldo N. Soto and Arturo Graupera, of the Spanish Section, Foreign Languages Department, Iowa State University, for their cooperation.

zanov calls it, seems to be a method which uses the relaxing effects of Savasana yoga, suggestion (but not in an hypnotic sense or context), and the pairing of verbally presented foreign language material cued to the rhythm of relaxing music. The presentation of the learning material seems to be but one half of the sequence; the other is the conscious rehearsal of the material presented in an incidental form by means of modified procedures for the practice of the language material. It is reported that Lozanov used a method containing these maneuvers to teach foreign languages with considerable success. The only way to satisfy some flaming curiosity and placate cautious skepticism was to attempt to replicate results obtained by Lozanov as reported in nonscientific Western literature.

Although Ostrander and Schroeder focused mostly on results, they did provide what was considered a skeleton description of the technique. This served as a beginning point in our initial explorations into the dynamics of the methodology in search for an operationalizeable procedure. Tashev and Natan (1966) provided a short description as well as some background, although incomplete. Lozanov (1971) gave little regarding procedure. Ryzl (1971) paraphrased the essence of Lozanov's method when he said that suggestion is applied to increase the student's scope of mental acquisitiveness, "when we succeed in convincing him that he can and will learn faster, he will then really learn faster."

Suggestopedia seems to be an integration and concerted application of suggestion, yogic relaxation, external reinforcing stimulation (music) which also serves as focus of conscious attention for a portion of the technique, and verbal instruction in a given foreign language. The synthesis we have been able to develop from the available literature and from factors drawn and intuited from our personal experiences in yoga and meditation can be summarized as follows. First, subjects (Ss) or students are seemingly taught to relax by assuming a Savasana yoga relaxation attitude; secondly, they seem to be presented with suggestions which seem to be aimed at the development of an instructional or mental set comparable to that of a child about to learn something new; thirdly, they listen to relaxing music while simultaneously being given verbal instruction in a foreign language; and lastly, they practice under nonstressful conditions. A cadence seems to be used which emphasizes such significant factors as rhythm, repetition, stressing of certain words, and the interpolation of pauses (Hartland, 1971; Bancroft, 1972).

Lozanov's results (as reported by Ostrander and Schroeder, 1970; and Bancroft, 1972) ranged from complete grasp of grammar in a semester's worth of material (sessions of two hours a day), to that of a two- to a three-year course, a six thousand words vocabulary, a functional grasp of grammar, and the ability to read, write, and speak fluently in three months (four hours/day). The languages involved were French, English, German, Spanish, and Russian. Duration of the treatment ranged from two weeks to three months, two to four hours a day, depending on the volume of the material presented. Learning was speeded from five to fifty times as compared to control groups; retention was increased significantly; effort was not required by the students; and the approach required no special equipment.

Experiment I

The first pilot study was designed to (1) establish the sequential order of the approach, (2) ascertain the role of relaxation without direct or indirect suggestion prior to each session, and (3) deliver material equivalent to the beginning Spanish course (one quarter) offered by the Foreign Languages Department, Spanish Section, at Iowa State University (Ames, Iowa) in two weeks, with daily two-hour sessions. The specific hypothesis was: if Ss were able to relax during each session and would recall their goals as developed and stated during the pre-experimental meeting, their improvement would be measured via their grasp of the material in the first six chapters of Wolfe's (1970) Spanish textbook.

Method

The method used in this experiment can be considered a composite technique integrated from information provided by Ostrander and Schroeder (1970) and Natan and Tashev (1966), the author's experiences with Savasana, meditation and Yoga, and conclusions reached after a survey of the literature in yoga and relaxation, bilingual methodology in foreign language teaching, suggestion and hypnosis.

Subjects and Design

Experimental Ss were recruited from college students and initially divided into two experimental groups based on prior knowledge of the language. The criterion for group assignment was prior exposure to the language in a systematic fashion (classroom work, a tutor, or living in a Spanish speaking environment). There were four Ss in a No Previous Spanish (NPS) experimental condition and four Ss in a Prior Spanish Knowledge (PSK) experimental group. All Ss were males. Ss' age in the experimental group ranged from 20 to 31 years with a mean of 24. A pre-post design was used; experimental Ss were their own control in view of the impossibility of establishing a control group under identical design through the Foreign Languages Department.

The PSK group was not dismissed due to the variety of levels of language skills of PSK Ss and the inadequacy of the testing instrument used in measuring knowledge of Spanish. As the range of language skills among PSK group members was discernible from simple inspection of pretest data, a decision was made to use data only from those who started and finished the experimental class. Thus, those Ss who wished to remain throughout the entire experimental sessions were allowed to do so without detriment to the experimental situation.

Procedure.

Three days before the experiment started, all experimental Ss were gathered together for a preliminary briefing meeting, followed by the administration of the pretest. The first hour was used to introduce the procedure, method, and design and state the purpose of the study. It was left unstructured and open for discussion. During this time the E gave a background on the method and procedure. This was done as if the effectiveness of the method was

already beyond doubt, thus setting suggestive parameters necessary for the experimental situation according to Lozanov. The sentence "It works" was repeated often and interspersed with other expressions and expletives describing the expected result. Emphasis was placed on the ability to relax without using the word "yoga" or "suggestibility." The transcript of the instructions regarding relaxation and suggestibility says: "Suggestopedia works. It allows you to learn to relax in order to learn. Relaxation under these conditions is good . . . very good, and it also happens to be conducive to learning. You'll get to a point when it will be like a little boy learning—and wouldn't you like to be a little boy again with all the abilities you now have. You'll get to a point when you can't help but pick up what you hear even though at the beginning you may not understand what you are hearing. This is OK. And while you are at it, relax and enjoy it; what else can you do? The important thing is to concentrate while you relax; while you are here sitting down comfortably on these soft chairs, begin by concentrating on the revolving ball on the table (a crystalball-like object with a 45 RPM revolving speed was placed on the desk at this point). Take your time to get into the groove of it. In the meantime, continue to hear me like I am coming from the periphery. You are not really concentrating on what I am saying and yet you'll understand what I say, won't you? While you are at it, begin to concentrate on your objectives for the course, exactly what it is that you will accomplish without much effort. When you are ready, simply begin to write it down and remember what you said. Don't tell me; just keep the piece of paper with your goals until the course is over; that way, we'll both surprise each other . . .," and so on. This is a capsule of the content of the recording made of the pre-experimental session. When all Ss were ready to describe their course goals in writing and after having done so, a short discussion followed on the effects of gazing at the relvolving ball and listening to the E while developing their goals. Ss were asked if they wanted to report on their goals by sharing them with other members of the group. None did so, but all did voice opinions to the effect that "this is the way to learn" and not sitting in a lecture, and that they were looking forward to the first session. At this point, Ss were informed that the first six to ten sessions would be devoted to training in relaxation via yoga and to the learning of attentional accomodation to dual stimuli. At the outset, the length of the pre-experimental training sessions were left up to the readiness of the group.

A total of five pre-experimental relaxation training sessions were needed. Experimental sessions began immediately thereafter. The first three pre-experimental sessions were used for the habituation of Ss exposure to dual stimuli, one of them being the learning material. The initial volume of material was ten paired associates (English word, Spanish translation with spelling in English) presented verbally. Some testing was done immediately after these trial sessions.

The experiment proper consisted of ten sessions. Duration of sessions (including pre-experimental and experimental trial sessions) ran an average of three and a half hours each. A session consisted of performance of selected yoga exercises prior to adopting a Savasana posture, habituation or re-

habituation to dual stimulation, accomodation to dual stimulation, and presentation of material (in experimental sessions).

Beginning with the experimental sessions (or experiment proper), the procedures were as follows. For the experimental delivery (or learning) session, after Ss finished their fifteen minutes yogic exercises and have adopted a Savasana sitting posture, they were asked not to listen to the instructor's delivery of material (in the same fashion as during the pre-experimental session habituation to dual stimulation). Instead they were asked to follow internally the music being played over loudspeakers. The music consisted of soothing classical piano and orchestra pieces. The foreign language material was, in this portion of delivery, presented verbally and cued to the rhythm of the musical piece.

For the practice sessions (following each learning session), Ss were again asked to relax in the same fashion as during the preparation for a learning session. Following a fifty minute "preparation for performance" instructional set operationalized verbally, Ss were introduced to oral practice of material exposed to in the preceding learning session. The "preparation for performance" portion of the session consisted of verbal instruction to try to pronounce the words exposed to before singly and within an increasingly escalating ladder of sentence complexity. The emphasis during practice sessions was on understanding of verbalizations in Spanish directed at the Ss and their emitting correct responses to Spanish stimuli (questions regarding meaning of particular Spanish words in English and answers in Spanish to questions in the same language). The method of practice consisted of individual repetition of Wolfe's (1970) practice format (selected portions).

Arrangement of learning material

The first seven chapters in Wolfe's (1970) textbook constituted the learning material. It was arranged as follows. The chapters were screened for vocabulary. Each Spanish word relevant to the practice of the language during practice sessions was isolated into discrete units. The Spanish words were then translated into English, with the students' native language being used as concepterferent language. A list of approximately 900 words was compiled from these chapters. Verb forms were not considered single words. Rather they were defined as variations of a central concept. The material delivered during learning sessions was also cued to the chapter(s) to be covered during the next practice session.

Testing

The Ss were pretested prior to the first experimental session and posttested after the last practice session. A sample "final exam" provided by the Spanish section of the Foreign Languages Department at Iowa State University was used. The 100 item test was split into two by an odd-even distribution of items. Some informal "pop quizzes" were also given orally throughout the sessions, and no record was kept of the results as these examinations were intended as instant feedback to Ss in order to build confidence levels of performance.

Results and Discussion

An analysis of variance was performed with the two major independent variables (a) knowledge of Spanish prior to the experiment and (b) the test condition, pretest or posttest, upon the dependent variable of Spanish achievement test scores. The analysis of variance summary is given in Table 1. The interaction effect of previous Spanish knowledge and test condition was significant at the .01 level of confidence. This interaction is portrayed graphically in Figure 1, from which it can be seen that the significant interaction occurred because the slope of the two lines were different. This means that the Ss who had had some prior knowledge of Spanish gained less from the experimental course than those who had no prior knowledge of the language. This limiting effect was probably not due to a ceiling effect or a perfect score of 50 on the test; no scores came close to this maximum. However, not all NPS Ss finished the course, thus, the information presented in both Table 1 and Figure 1 for those students are based on those who remained. The limiting effect was very likely not due to the aforementioned factors; therefore, the fact that both groups had essentially the same posttest score can be attributed to the course itself. Since the interaction persisted in the form of a relatively minor different amount of previous Spanish knowledge, the analysis of the main effects was continued.

Table 1

Analysis of variance summary for the effects of prior knowledge and testing condition on Spanish test scores (Study #1)

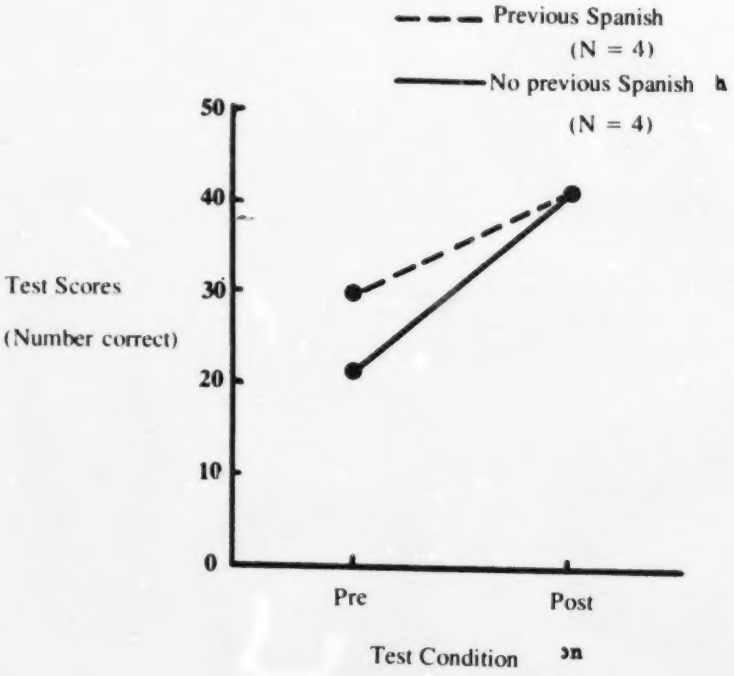
Source	SS	df	MS	F
Between Ss	*107.67*	*5*		
A (Prior knowledge)	48.17	1	48.17	3.24
Ss w/groups	59.50	4	14.88	
Within Ss	*948.00*	*6*		
B (Testing)	901.34	1	901.34	901.34*
A x B	42.66	1	42.66	42.66*
Bx Ss/groups	4.00	4	1.00	-
Total	1055.65	11		

* Significant at the 1% level.

Previous Spanish knowledge was not significant, but the major significant effect was the test condition, whether the test was a pretest or a posttest. Looking at Figure 1, the students showed a considerable gain from pretest to posttest. The Ss without previous knowledge of Spanish had a pretest score of 21 and a posttest score of 41, going from 42% to 82% correct. Students with some prior knowledge of Spanish went from 60% to 82% correct. This gain in achievement was all the more surprising because there was no overlap between the pretest and posttest scores. This was true in spite of the effects of previous knowledge of Spanish. The conclusion is that the students did significantly better on the posttest than the pretest ($p < .01$).

Figure 1

The effect of previous Spanish knowledge and test condition upon achievement test scores.



Spurious reasons must now be considered to account for this large and surprising gain in Spanish achievement test scores. The first such possibility for specious results is the usual test-retest phenomenon. No test-retest data for the Spanish achievement test used was available as the instrument was furnished by the Spanish section head as a sample of "final exam" used by the Department. A second specious reason to account for the large gain in test scores could be the fact that the tests were considerably different in difficulty; specifically, if the posttest were considerably easier than the pretest, this artifact could account for the large gain actually found. Again there was no control for this, except through randomization. In this respect, the two forms of the criterion test were obtained by taking alternate items from the final exam in the beginning course at Iowa State University. Items numbered 1, 3, 5, etc. provided the pretest and the alternate items 2, 4, 6, etc. provided the questions for the posttest. This serial process should have randomized the item difficulty so that the pretest and posttest forms should be of comparable difficulty within the limits of randomization and error of measurement. This assumption needed to be checked, and preliminary plans were made to do so.

In pursuit of empirical data on test item difficulty from exams used by the Spanish section, analysis of test data from another final exam of assumed comparable difficulty (first quarter Spanish) was carried out by the junior author. The test analyzed contained 90 items. It was split into odd and even subsets of 45 items each. The results for data from 134 students were: odd items, average = 38.4, raw score = 85.3% correct, standard deviation = 4.6; even items, average = 36.8, raw score = 81.7% correct, standard deviation = 3.9. The corrected odd-even reliability was 0.843. These averages are significantly different well beyond the 1% level ($t = 6.44$, d.f. = 133), with the conclusion that the odd item set was slightly easier than the even item set. Practically, this difference can be ignored as it was much smaller (and in the opposite direction) than the larger pre-class/post-class difference found. Conversely, it appears safe to conclude that the large class gain found was not due to radically different measuring devices on difficulty level.

Conclusion

Students in this study improved considerably in their knowledge of Spanish from pretest to posttest. This effect probably was not due to simple test-retest improvement nor to differences in difficulty level in the test. Further, the gains were so large that further research was definitely in order to verify the experimental results and to elaborate on them.

Experiment II

Further research was carried out to determine the importance of "suggestion" in the overall methodology. However, there were important questions that needed answers before another group experiment could be carried out. In manipulating the "suggestion" variables(s), information was needed regarding the effectiveness of the types of suggestions (direct, indirect, visual) and the possible reconceptualization of suggestion away from the one-channel verbal delivery common to hypnosis research models. Other important aspects of suggestion in a one-or multi-sensory input modality in terms of its delivery were: effectiveness of verbal formats in presenting messages or communications, modes of blending direct and indirect suggestive instructions into a smooth sequential cadence, speed of delivery, repetition, pauses, stress of words, nature of significant symbolic-semantic stimulus words, rhythm, the types of effective visual suggestions, and the development of a technique that would allow for the evolution of a flexible sequence adaptable to individual differences. Heavy emphasis was placed on timing and rehearsed delivery sequence relevant to the recipient. Other factors considered but not operationalized for the purposes of this experiment were variables involved in the interaction between the student and the learning environment and the variables which related to expectation levels of performance for learning and memory capacity. The importance of the later variables is discussed elsewhere (see Lozanov, 1971; Benítez-Bordón, 1974).

With regards to the modality of the delivery of suggestions in a verbal form, direct suggestions ("As you relax more and more, you will progressively become more and more awake and internally calm . . .") are effective in some cases (Gheorghiev, 1971), but so are indirect suggestions ("When you are in the learning situation, you can't help but pick up what the teacher will be saying to you although you will be attentively enjoying the music that caresses your ears . . ."). Thus Experiment II was a logical extension of our empirical research into the validity of the Lozanov method as we initially interpreted its technique both through individual case studies (six in total) and an evaluation of the procedure used in the first experiment.

Summarizing, the central question faced in this second experimental trial was whether or not the manipulation of "suggestion" as a learning variable (operationalized in the procedures for (1) the relaxed acquisition of the material, (2) the relaxed retrieval of what was learned, and (3) the conscious and purposive practice of the material) would still produce better results than obtained through the manipulation of "relaxation" alone (i.e., "relaxation" as operationalized in Experiment I). Specifically, if a satisfactory pre-experimental optimal combination of verbal suggestive messages aimed at further fostering an instructional internal set similar to that accomplished with students in the first experiment, the results in terms of pre- to posttest scores would surpass results obtained by manipulating "relaxation" only.

Method

The method used here can be considered a synthesis of findings from the first experiment and the methodological modifications mentioned above and further described under the **procedure** section.

Design, learning material, and testing

The same experimental design was used in this study as in the first experiment, with no exceptions or modifications. The same learning material (Wolfe's 1970 textbook, first seven chapters) and the same achievement test used in Experiment I were also used in this one.

Subjects

The 10 male experimental Ss were recruited through selected Spanish instructors in the Des Moines (Iowa) School District. All had no previous Spanish. Two had previously taken French and three German. Ages varied from 15 to 18 years of age, with a median age of 17.0.

Procedure

The same procedure regarding introduction to the experimental class and mode of relaxation used in Experiment I was also utilized in this study. The modifications made to the overall experimental procedure in this study were: (a) the delivery of suggestive messages during the dual stimulation pre-experimental training and during the preparation portion of the learning sessions, and (b) the manipulation of visual and voice-tonality suggestions during practice sessions, where the senior author used visual materials and voice tonality in a differential manner simultaneously.

The suggestive messages constituted verbal communications given to the students during the preparation for performance prelearning portions of the experimental procedure. They were messages containing both direct and indirect verbal suggestions aimed at their differentiation of stimuli during the relaxed receptive portion of learning. This meant that students were suggested to differentiate consciously the music (to which they were to pay attention) and the cued verbal presentation of the material (which they were to ignore, or try to ignore).

The combination and simultaneous use of differential voice tonality and visual stimuli during practice sessions was operationalized as follows: students, after undergoing the preparation for performance procedure, were exposed to visual material corresponding to the words used at the time. The word(s) being practiced at any time were generally repeated twice, once in a loud voice and once in a normal voice. The senior experimenter, who also served as teacher, would use emphatic body language messages as each item was uttered. The body language message was accompanying the verbal part as a reinforcer, and was cued to the meaning of the word or sentence, this sequence was completed for every item of practice.

Results

Results of the experiment and the analysis of variance summary are shown in Table 2. The two forms of the test had been administered in a counterbalanced fashion from pre- to posttest: half of the Ss had the odd form as pretest and the even as posttest and viceversa for the other half of the Ss. The interaction effect of testing and form of the test was not significant nor was the effect of the test form itself. The two forms of the test were comparable in difficulty and test difficulty did not interact with the pre-post test sequence.

Table 2

Analysis of variance for the effects of testing and test form upon Spanish test scores (N = 10, Study # 2).

Source	MS	df	F
Testing (Pre vs. post)	6055.20	1	3074.5*
Form (odd vs. even)	0.00	1	0.00
Testing vs. Form	0.00	1	0.00
Within *Ss*	1.98	16	—

Testing condition	*Average*
Pretest	14.2
Posttest	49.0 (50 = maximum possible score)

* Significant at the 1% level

The only significant effect was the improvement in achievement test scores from pre- to posttest. The bottom part of Table 2 shows these testing condition averages. The pretest scores with an average of 14.2 were essentially at the chance level since the questions had four choices apiece. The posttest scores averaged extremely close to the maximum score of 50. Considerable ceiling effect was shown on the posttest, and consequently the range of improvement was curtailed by such an effect. The test could not adequately tap the superior achievement of the Ss at the end of the class. A more discriminating test was needed.

Discussion

The results from Experiment I were suspect on the basis that the large improvement obtained may have been due to differences in difficulty of the two test forms. This possiblity has been ruled out in this study because half of the students took each form as a pretest and the other form as posttest. There were no significant differences in achievement on either form of the pre- or posttest.

The major spurious reason to account for this large achievement now appears to be a reminescence phenomenon. But the students were not exposed to Spanish before the class (as corroborated by school personnel), so how can they reminesce? However, as the course lasted approximately four weeks in total (with sixteen days time span between the administrations of pre- and posttest), we considered the possibility that students may reminesce specific test items. But the test item pool for both tests were different, so again, how can they reminesce? Consequently, the results from this second study support those of Experiment 1 and seem to support the experimental hypothesis.

Conclusion

Lozanov may indeed have something. It appears that an arrangement of variables relevant to learning skeletally presented by Ostrander and Schroeder (1970) and Bancroft (1972) seem to provide an efficient procedure for language training. Two important considerations however are that there are no data for comparison between what was done in these experiments and those carried out by the Bulgarian investigator; and second, there is no possible way of obtaining comparisons between the effectiveness of the methodology used here and more traditional ones, as we could not establish control groups due to conditions beyond our control.

Final Comments

It has been increasingly difficult to obtain reliable information about the Lozanov method. Although the approach seems to offer possibilities, researchers in this country are reluctant to take the Bulgarian method seriously, and possibly dismiss it as farfetched due to the mystery and seemingly exhorbitant claims surrounding it. But in the case of those who are willing to explore the validity and dynamics of the technique, it is difficult to bring under scrutiny whatever assets it may bring forth in the teaching of foreign languages. Furthermore, the absence of normative information on procedure and data for comparisons leave much room for speculation and overgeneralization of its purported applications. No one denies that caution should be exercised in the diffusion of the methodology, whatever it may be. But ever since Ostrander and Schroeder's (1970) account of this wonder of a psychotechnology, there has been a spurt of interest among serious American researchers. It is perhaps time that we acknowledge this interest openly so that serious research can commence and be appropriately placed in the hands of responsible and bona fide professionals.

Further work is definitely indicated at this point to compare the language achievement gains shown by this method with those of a no-training control and with a conventional course as checks on efficiency of learning.

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[1]*For a more detailed account, see Jane Bancroft's "Foreign Language Teaching in Bulgaria," Canadian Modern Language Review, Vol. 25 (March, 1972).*

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THE SANDY SPRING EXPERIMENT: APPLYING RELAXATION TECHNIQUES TO EDUCATION

by Peter Kline

Sandy Springs Friends School

A Bulgarian psychologist, Dr. Georgi Lozanov, has developed a technique of rapid learning which has, since 1956, been used to teach a number of subjects, particularly foreign languages, at much faster rates than was thought possible through conventional methods. Furthermore, this method seems to be more pleasant for students than traditional methods of learning. This method first became widely known in the United States with the publication of Ostrander and Schroeder's *Psychic Discoveries Behind the Iron Curtain.* (Bantam Books, 1970) Lozanov's own account of his research has been translated into English and is now being prepared by the Staff of Mankind Research Foundation (MRF) for publication in America.

Several characteristics of the Lozanov method should be noted at the outset. First, students are taught how to relax their minds so that they will be unusually receptive to the material presented to them. The material is presented first with full conscious attention and then again during a period of relaxation while the students listen to music. Words learned in this manner are then reinforced by student psycho-drama exercises or impromptu skits in which vocabulary is reinforced by usage. It is noteworthy that students do not have the illusion of learning but are surprised to find that they know the new material when they are tested on it. It is also noteworthy that the rate of forgetting is much lower than with more traditional methods of learning. A foreign language learned by the Lozanov learning method is retained almost completely a year later, even if there has been no intervening practice in the use of the language.[1]

After reading the Ostrander and Schroeder account as well as Lozanov's own manuscript, my wife Nancy and I were convinced that an important new step could be taken in American educational practice if the Lozanov learning method were used in the United States. We were not clear, however, as to the precise method of application of the technique. We, therefore, concluded that it would be necessary to have teachers trained by Lozanov himself before the technique could be properly applied. To that end we set about trying to find suffucient funding to send American teachers to Bulgaria to study with Lozanov. We also set up an experimental educational program which would make possible the implementation of the technique as soon as it became

available. It was important that significant blocks of time during the school day be available for foreign language study should this prove desirable.

We knew that an experimental program would have to be adapted to the needs of an existing school. We found that the Sandy Springs Friends School in Sandy Spring, Maryland, was willing to implement such a program as a means of attempting to educate students who had not been successful in a traditional school program or who were looking for an alternative type of educational experience. We were not hired by the school, but rather contracted to work with approximately twenty students in a single classroom all day long. We were to teach them all subjects in such a manner that their desire to learn would be increased. In addition to the Lozanov foreign language program, we selected a conceptual mathematics course, an English course based on poetry and dance, composition and drama, and a history course based on the Time-Life series, *This Fabulous Century*. In order to help students come to grips with their own learning problems we used certain already available tools including the McClelland motivational training, the Values Clarification program, re-evaluation counselling, and Silva Mind Control. Great emphasis was placed on de-conditioning negative educational attitudes and experiences. A feeling of group self-awareness was cultivated in the program and students were encouraged to express their feelings, to validate and support each others' growth, and to teach each other.

Our program at Sandy Spring was called the Interlocking Curriculum because of its stated objective to teach the various subjects in such manner that their relatedness to one another would become clear. We also believed that learning should occur on at least four different levels: physical, emotional, intellectual, and spiritual, and that these different levels should be related in the minds of the students.

The overall success of our program during its first year, 1973-74, is suggested by the following observations. Of the original twenty-four students enrolled in the program, one dropped out after three days and a second at the end of the first semester. During the course of the year three students were added. At the end of the year it was felt advisable for four students to do a second year in the program. The students in the program during the first year were about equally distributed among four grades: 9th through 12th. Of the twelfth graders, two went on to college, two returned to the curriculum as apprentice teachers for the second year, and two temporarily discontinued their education. Of the remaining students, four continued their education at other schools and the rest returned to Sandy Spring for its regular program.

We found that at the end of the first marking period in the second year, twelve of our first year students were in a position to have their grades compared with their last set of grades before entering the Interlocking Curriculum. (This leaves out repeaters, students who did not continue their education, and students whose grades were not yet available to us.) The grade level average for these students before entering the curriculum was 1.39. The grade level average at the conclusion of the first marking period following their

year in the curriculum was 2.64. The entering group had had 4 A's and 14 F's. Following the curriculum there were 14 A's and 4 F's, with other grades similarly improved.

Obviously no scientifically valid statements can be made either about the success of the curriculum as a whole or about the success of our foreign language teaching experiment, in particular. The latter must be seen against the background of the former, and it is impossible to say just how such an experiment would fare against a different educational background. Nevertheless we feel that our educational experience was interesting enough to suggest that other teachers might wish to try their own variations of what we did.

By December, 1973, it became clear that it was no longer feasible to have a teacher trained in Bulgaria in time to teach in our first year Interlocking Curriculum program. We would either have to abandon our plans for foreign language teaching altogether or work out something else of our own devising. In order to test the possibility that merely listening to foreign language presentation with a musical background might prove the solution, I recorded a foreign language course using both English and German on one track of a tape and a musical program on the other track. I played this several times while I listened to it in a relaxed state. The results were not promising: I did not feel that I had learned anything, nor could I recall any of the words or phrases when tested on them.

Subsequently, together with several educators, we worked out a system which did seem promising. The Nature Method Latin text was used with a musical background. It was first read to the experimental group with the attention of the group. The group was then relaxed and listened to the text with a musical background. Though no spectacular results occurred, many members of the group felt that their minds were unusually receptive to the new material being presented to them. We decided to attempt our own version of the Lozanov course using the Nature Method text and a musical background.

By January of 1974, our students had already been prepared to listen to classical music as a result of our music appreciation course. Many negative feelings about classical music as something associated with parents or with the Establishment had been worked through, and most of the students had learned to enjoy the works of Mozart, Beethoven, and Vivaldi. We thus had a common background of musical experience on which we could rely and we did not have to worry about the music itself making some of our students tense or resistant to the learning experience.

Beginning in January 1974, we taught the Silva Mind Control course as a means of gaining controlled mental relaxation. This course is based on the Volpean relaxation technique and provides students with enough relaxation exercises so that most of them can effectively produce their own mental and physical relaxation when the course has been completed. Basically, the

Volpean technique is a set of instructions given to students who are in a relaxed state with their eyes closed. Attention is drawn to each part of the body in sequence, and the subject is told to relax that part until the whole body is completely relaxed. This differs from Lozanov's emphasis on mental relaxation only.

When we had originally enrolled the students we had promised them French taught by the Lozanov method. We had planned to have a French teacher trained in this method. However, since we were unable to teach French ourselves, it was neccessary to switch to Latin, which we were qualified to teach. We promised the students that after approximately four weeks of Latin we would offer them four weeks of French—taught by two students in our class who knew enough French to read the text out loud.

The Nature Method text, available both in Latin and in French, proved an excellent one for the type of learning experience we were offering. It is designed to allow the student to read in the language without translation. Each new word is introduced in such a way that its meaning is made clear by the context in which it appears. Words are re-used often enough so that they quickly become familiar. Many more words of text are used to introduce new vocabulary than are customary in other foreign languages courses. Thus one can relax and allow the brain to become familiar with the sounds of the words and gradually absorb their meanings. The situation is very similar to that of a child being exposed to language for the first time. The meanings of many words and sentences are clear before the child ever attempts to speak the language. He learns by having it in his environment and by gradually and without effort associating familiar sounds with meanings. In traditional foreign language courses the student is usually expected to begin speaking almost immediately, and to make a conscious effort to recall vocabulary recently learned. Fear of forgetting words and the tensions that arise from fear of being called-on keep the mind from being in a relaxed, comfortable state. The excitement of competition and the desire for success are strong motivating factors for many students, but they do not simulate the conditions under which the native language was learned.

An important source of tension in traditional learning is the fear of the unknown. Any word which is unfamiliar becomes a threat, and the student must either learn it as quickly as possible or try to avoid admitting to himself that he does not know it. In any case, ambiguity causes anxiety, and the tolerance of ambiguity is decreased. The method we used actually increases tolerance of ambiguity. The student learns to trust that unfamiliar words will become familiar, and that their meanings will become clear. The mind does not become tense when confronted with unfamiliar material; it relaxes and allows the familiar to remain clear. It then constructs hypotheses as to what the unfamiliar might mean Sometimes these guesses are wrong, but the errors correct themselves as the meaning of the text becomes progressively clearer. The habit of working out meanings in a relaxed and comfortable way seems to have a very good effect on the development of general intellectual ability.

In attempting to determine the relative success of our new method, we had certain difficulties. It was difficult to identify exactly what was being learned, and consequently what could be tested. In the initial experiment we used no translation at all, allowing the language to be absorbed like a second native language. Therefore, to introduce translation into a test situation would have been unfair and misleading. We got some idea of the rate at which new words were being learned by having students check off the words in their books when they felt these words were called out too rapidly to be mentally translated. We got some idea of how well students were understanding what they were reading by the voice patterns with which they read the language aloud. Vocal emphasis either indicated understanding or it did not.

By the end of a five week period during which an average of three hours each day had been spent studying Latin, the average student had a vocabulary of approximately five hundred words whose meaning he could recognize. Some students had completed the equivalent of a year's study in reading the language. One student, who entered the class late and experienced only the last two weeks of study claimed that he learned more Latin in those two weeks than he had learned French in four years of conventional study.

The process of study during the five weeks had been the following: the students were introduced to the text with full conscious attention. They followed along while it was read aloud and marginal notes were pointed out to them. They were then relaxed and the text read to them while they listened to music. They then worked in groups reading the text aloud individually or in chorus. The relaxation period typically encompassed the reading several chapters at one time, so that there was a combination of review and the exploration of new material.

When, after three weeks, it seemed clear that a few students were not learning anything because they were unable to adjust to lack of translation, we suggested that we translate some of the text to help clarify it. We allowed students who did not wish to remain for this translation to leave the room and work together reading the text aloud for themselves. Only four students were willing to remain for the translation period.

We felt that the study of Latin in this manner might affect the basic understanding of the English language, and so we administered the California Achievement Test in English immediately before and immediately after the five weeks of Latin study. No English was taught during that period, though students continued to read on their own and keep journals. The average student progressed six months in at least one of the four areas covered in the test. Overall scores were increased in all but three cases. The increased ability measured an equivalent of four years in one case. The results might have been better, except that some students scored above the level of the test the first time and therefore could show no improvement.

TABLE I

SUMMARY OF RESULTS, SANDY SPRING LATIN PATTERNING EXPERIMENT

GROUPING	M	F	MEAN AGE	GRADE EQUIVALENT SCORES													
				language						reading							
				Mechanics		Use&Struct.		Total		Spelling		Vocabulary		Comprehens.		Total	
				A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*	A*	B*
9th Grade	3	3	14.80	10.22	11.13	8.83	11.12	10.12	11.33	10.97	10.35	11.63	12.12	11.85	11.85	11.78	12.08
excess improvement					+.80		+2.18		+1.10		-.73		+.38		-.11		+.19
10th Grade	3	2	16.24	9.54	10.10	9.16	8.90	9.66	9.94	11.16	11.28	10.16	11.42	8.18	10.86	9.32	11.06
excess improvement					+.45		-.37		+.17		+.01		+1.15		+2.57		+1.63
11th Grade	2	4	16.57	12.00	12.30	7.68	8.63	10.72	11.33	9.48	11.17	11.32	12.38	11.77	11.62	11.65	11.95
excess improvement					+.19		+.84		+.50		+1.58		+.95		-.26		+.19
12th Grade	1	5	17.72	11.75	12.28	12.48	11.88	11.97	12.18	11.40	11.35	12.78	12.37	12.13	11.00	12.45	11.93
excess improvement					+.42		-.71		+.10		-.16		-.32		-1.24		-.63
All Boys	9		15.74	11.07	11.91	9.63	10.51	10.84	11.67	11.42	11.81	12.08	12.64	11.62	11.78	11.96	12.29
excess improvement					+.73		+.77		+.72		+.28		+.43		+.06		+.22
All Girls		14	16.76	11.29	11.29	9.30	9.98	10.54	10.98	10.29	10.52	11.18	11.84	10.77	11.08	11.02	11.46
excess improvement					+.33		+.37		+.33		+.12		+.55		+.20		+.33
Group A	5	11	16.34	10.37	10.92	8.59	9.50	10.04	10.63	9.97	10.41	10.66	11.58	10.31	10.99	10.57	11.28
"failing"					+.44		+.80		+.48		+.33		+.81		+.57		+.60
Group B	4	3	16.33	12.23	12.84	11.76	11.76	12.07	12.67	12.49	12.44	13.51	13.46	12.91	12.17	13.26	12.96
volunteers					+.50		-.11		+.49		-.16		-.16		-.85		-.41
Total	9	14	16.34	10.94	11.51	9.55	10.19	10.66	11.25	10.73	11.03	11.53	12.15	11.10	11.35	11.39	11.80
excess improvement					+.45		+.53		+.48		+.19		+1.51		+1.14		+.30

* A* and B* indicate forms A and B of the California Achievement Test 1970.

The following subjective observations may help clarify the results attained. It was noted that the side effects of the experiment were sufficiently valuable so that if no Latin at all were retained it would have been a worth while experience. Students' vocabularies were significantly improved. They seemed generally more relaxed and confident of their ability to learn. One girl reported that she had become much better able to teach a gymnastics class because she had begun to trust her intuition rather than feel she had to plan the whole class in advance. Several students indicated a desire to continue the study of languages. Some felt that they could now better understand other languages that they had already studied.

The Latin experience was completed in February 1974 and in April we spent four weeks in the study of French. This experiment was less successful, since only students were available as teachers. However some students who had not done well with the Latin seemed to do well with the French. Others did less well with French than they had with Latin.

The experiment was not an unqualified success. Many students complained of boredom. Some felt that they weren't learning anything, even though their increasing vocabularies showed that they actually were. There was general feeling that too much physical relaxation was tiresome.

We, therefore, felt that it was necessary to vary our approach and to continue searching for better ways of implementing the method. We decided that only a single language should be taught during the second year, and that the chance to go farther with it would make the beneficial results more permanent. We decided to study the language only a week at a time; the two or more weeks in between would allow what had been learned to settle into the memory. We decided to use translation, partly in order to teach that skill as a mental discipline in its own right.

After it became clear during the second year of the experiment that some students were more ambitious than others, Nancy and I divided them into two groups. Her group, the faster ones, were taught mental relaxation without muscle relaxation. They received a revised version of the text, turned into dialogue form, with a translation accompanying it. The first presentation of the text included the opportunity to ask questions and clarify all points. The second presentation was in Latin only, with musical background and mental relaxation. After that, the students broke into groups and worked out skits using the new vocabulary. Lessons were for three hours a day and covered a vocabulary of about 100 words a week. There was no homework. One test indicated that the majority of students had a vocabulary retention of about ninety-five percent, and that the poorest of them (a student whose grades the previous year had all been failures) had above fifty percent retention. If this class is compared to four weeks of traditional study of Latin, during which about fifteen vocabulary words are learned each week, then just one of the students was slightly below the maximum level of achievement for such a course.

TABLE II

SUMMARY OF RESULTS, SANDY SPRING LATIN PATTERNING EXPERIMENT

	STANINE SCORES													
	l a n g u a g e								r e a d i n g					
	Mechanics		Use&Struct.		Total		Spelling		Vocabulary		Comprehension		Total	
GROUP	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Form B (2nd Quarter scores)	5.36	7.00	4.50	6.00	5.06	6.71	4.81	7.00	5.62	8.14	5.13	7.00	5.25	7.71
Form B (3rd Quarter scores)	5.36	6.57	4.38	6.00	5.00	6.71	4.81	7.00	5.38	7.86	4.94	7.00	5.06	7.71
Form B (interpolated to fifth (a) week expected progress)	5.36	6.83	4.46	6.00	5.04	6.71	4.81	7.00	5.53	8.03	5.06	7.00	5.18	7.71
Form A (2nd Quarter scores) (b)	4.81	6.57	3.69	5.86	4.69	6.29	4.56	6.57	5.13	8.14	4.94	7.29	5.00	7.86
measured improvement (a - b)	+.55	+.26	+.77	+.14	+.35	+.42	+.25	+.43	+.40	-.11	+.12	-.29	+.18	-.15
normal improvement (c) (linear over four years)	.0353	.0353	.0233	.0233	.0328	.0328	.0643	.0643	.0643	.0643	.0587	.0587	.0592	.0592
ratio (measured/normal) $\frac{a - b}{c}$	+16	+7.4	+33	+6.0	+11	+13	+3.9	+6.7	+6.2	-1.7	+2.0	-4.9	+3.0	-2.5

STANINE SCORES

8.0 = high level
7.0 = well above average (mean + 1 s.d.)
6.0 = slightly above average
5.0 = average (mean) of standard population
4.0 = slightly below average
3.0 = well below average (mean - 1 s.d.)
2.0 = low level
Standard deviation (s.d.) of standard population = 2.0

GROUP A were 16 failing students
GROUP B were 7 volunteers

Form A and Form B are versions of the California Achievement Test, Devised by Ernest W. Tiegs and Willis W. Clark, CTB, McGraw-Hill, Inc., 1970 edition.

Another advantage of our approach was that it allowed students to progress at their own rate. During the first year's experiment no student was able to compare his progress with that of anyone else in the class. Consequently, there was never a sense of falling behind the others, only of gradually increasing one's own level of understanding.

Since several different chapters were being presented at a time, the level of understanding varied considerably from one chapter to another. Thus, if a given day included the presentation of Chapters 2, 4, 6, & 8, the student might have full understanding of Chapter 2, partial understanding of 4, semantic pattern familiarity with 6 and initial exposure to 8. But the precise levels of awareness were evident only to each student and could not be compared with any other student's awareness, since no recitation was required.

The elimination of a competitive atmosphere from the classroom helped to build the confidence of students who normally would have been below the class average without apparently reducing the motivation of those who were leaders. Focusing on the subject itself, rather than on the performance of different members of the class helped students increase their sense of the value of the learning experience.

In the second year of the experiment, one student seemed to have enormous problems making any progress at all during the first few weeks. While others were reading comfortably and with good comprehension at the level of Chapter Twelve, he was struggling with Chapter Three. Nevertheless, this student had a sense of accomplishment as he made progress at his own level, and experienced a totally different attitude from the previous year when he had to drop a Spanish class in which he was making no progress at all. Another student in the second year was a repeater from the first year. During the first year of study she had had the lowest vocabulary score — 119 words. During the second year she became one of the leaders in the class and helped to teach other students who were having difficulties.

In comparing our results with those reported by Lozanov, we must make allowance for certain differences between the experimental groups. During a training period of six weeks with three hours a day of instruction and no homework, Lozanov reported a vocabulary of about 1,000 words. During the equivalent time period we were able to achieve vocabularies averaging approximately 500 words. However, Lozanov was working with highly motivated adults, experienced language teachers and perfect attendance records. Our students were poorly motivated, many of them on the borderline of being high school drop-outs, some of them with past records of consistent failure. We, ourselves, were relatively inexperienced in the teaching of language. We were unable to enforce perfect attendance, and in fact, found that attendance was quite irregular. It is not yet clear whether our students would have been able to respond favorably to the conditions under which the Lozanov course is taught. In particular, the tendency for high school students to be unpredictably absent for reasons that are more often unavoidable must be taken into account when projecting Lozanov's methods into a typical high school situation. Their relative physical and emotional instability make it virtually

impossible to avoid significant absences during a six month period. Furthermore, our method was shown to be relatively successful with teachers inexperienced in language instruction and is even, in a sense, a self-teaching method. Lozanov requires highly skilled, carefully trained teachers.

It is possible, therefore, that as Lozanov's methods are applied to American education, some variation of our methods will be useful as an accompaniment to them. If students can be divided into two groups and those who are less motivated or cannot maintain adequate attendance records are placed in the more laissez-faire atmosphere that we have experimented with, it is possible that all students will be able to benefit, though admittedly some at much greater rates of learning than others.

It is also possible that Lozanov's method will prove more valuable in the development of memory and ours in the development of general problem-solving ability. The question of whether words are memorized as a result of rote learning or of significant experience in figuring them out, or some combination of the two, remains to be investigated.

Until more detailed information becomes available, many teachers may wish to experiment on their own with the use of relaxation in learning. It is probable that there are thousands of different approaches to the problem of presenting material to a mind in a relaxed, receptive state. Each method that is developed may have advantages and disadvantages when compared with others. One of the problems is to present information in such a manner that it is sufficiently repetitive to be learned, but not so repetitive as to be boring. The use of classical music as a background seems to divert the mind from the subject matter presented, and thus allow it to be more receptive on the unconscious level. However, it would be naive to assume that any presentation of material with such a background would be equally well absorbed by the mind. The working out of methods of presentation in all areas of study will require the greatest skill and insight into different facets of thinking and learning. It should not be assumed, moreover, that the mind is completely passive when in a relaxed state. Course materials requiring very sophisticated thinking may prove valuable along with those simply designed to facilitate the memorizing of information.

Interested experimenters may wish to repeat my own experiment with Italian. Working with the Nature Method course in Italian I found that recording the material on tape and playing it back a few times with a musical background enabled me to become familiar with the language at a surprisingly rapid rate and with a great deal of enjoyment as well. The satisfaction of listening to a tape that one has recorded without much idea of its meaning and hearing it make sense after only a few inattentive exposures must be experienced to be believed. True, the self-teaching method gives no opportunity for learning to speak the language, but it provides enough development of understanding so that the process of developing a spoken command might be expected to come relatively quickly.

The observations in this monograph are by necessity speculative in nature and designed to provoke thought and experimentation rather than to state conclusions. It must be emphatically asserted that our experiment was inspired by the Lozanov method, but that it differs along the lines we have indicated. No one who attempts similar experiments along the lines we have indicated should claim that the Lozanov method is being used. The differences that are evident, from comparing the Jane Bancroft work, previously cited, with the observations cited above are suff.ciently clear enough. The actual differences that emerge upon juxtaposition of the two methods will no doubt be even more substantial. Lozanov's work is the result of over 20 years of research and experimentation. Our method has been one of improvisation. We do not wish in any way to suggest that the methods are interchangeable, or that Lozanov's is not substantially superior in many important respects to the experiment we have described.

Probably no one method of instruction can encompass all the varied possibilities of human learning under conditions of mental relaxation. It is to be hoped, therefore, that the Lozanov findings will stimulate many more independent experiments in human learning. When a variety of techniques become available, the possibility of finding techniques best adapted to differing human situations should be greater. It is hoped that in the near future many such experiments will be conducted and their results made generally available.

The Effect of a Suggestive Learning Climate, Synchronized Breathing and Music, on the Learning and Retention of Spanish Words

Ray Benítez Bordón and Donald H. Schuster
University of Iowa Iowa State Univeristy

Abstract

This study investigated the influence of a suggestive atmosphere, synchronized music and breathing on the learning and retention of Spanish words. Subjects were 32 undergraduate college students without previous formal training in Spanish; ages ranged from 19 to 26, half were male and half were female. The design was a between subject full factorial ANOV with independent variables of suggestion, breathing and music. All three variables significantly affected the acquisition and retention of Spanish words. Significant cumulative interaction effects also occurred. At a practical level, these variables when present resulted in learning 2.5 times better than when these same variables were absent.

The Effects of a Suggestive Learning Climate, Synchronized Breathing and Music, on the Learning and Retention of Spanish Words

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University of Iowa Iowa State University

Purpose

The objective of this study was to investigate the influence of three variables on the learning and retention of a list of 50 Spanish words. The independent variables were: (a) suggestions that learning was going to take place and be easy, (b) rhythmic breathing synchronized with the presentation of Spanish words and their English definitions, and (c) music to which breathing and rate of presentation were also synchronized. The influence of these variables on learning outcomes was reported to have a large positive effect on learning (Lozanov, 1971; Bancroft, 1975).

Background

Critics of the traditional associationistic approach to memory emphasize the active and selective role of the personality versus the passive receptivity in human memory. Some agreement exists with regards to perception and learning: perceiving is an active assimilation of and accommodation to the stimulation from the environment. Memory processes are subject to influences of personality factors that at the time of assimilating the experiential context influence memory content (Reiff and Scheerer, 1959) and the selectivity of memory is traceable to either sentiment, interest, need, attitude, or set (Bartlett, 1932; and Gordon, 1937). There also seems little doubt that regardless of which intervening variables or constructs have been used for explanation, agreement exists that two coordinates of influence aid in explaining the content of memory and memory function: (1) the present personality organization and discrete experiential state of the moment, and (2) the context of the environmental situation.

Lewin (1935) attempted to bring the environmental context and the experiential context together by postulating a psychological field or life space consisting of a psychological environment and a psychological person. The psychological environment consists of the person's perception of events in the environment; the psychological person represents the person as he or she perceives herself or himself. It also consists of the psychological forces within the person, e.g., tension, needs, systems, etc. Pressures of this kind are intention, will, instruction, attitude, and readiness to act. Several investigators (Lewin, 1926; Zeigarnik, 1927; and Birenbaum, 1930) have stressed the influence of intention upon memory and have postulated them as quasi-needs. These quasi-needs set up tension systems that motivate the person to remember. They found that facts pertaining to undischarged tension systems are remembered better than those pertaining to discharged tension systems. But tension systems do not always make for better remembering. Those to which the experience of failure becomes attached are frequently isolated from the rest of the field (Reiff and Scheerer, 1959).

Enter Lozanov (1971a). He postulated that the manipulations of the psychological environment and direct social influence exercised by an investigator in a special arrangement (e.g., a classroom, an experimental situation) will result in the learning of didactic material. Furthermore, the interaction of experimenter and students is perceived in terms of two constructs: the authority of the experimenter and its corollary "infantilization" of the students, and the simultaneous positiveness of the experimenter's verbal and non-verbal communication with students. It is hypothesized in Lozanov's theory of suggestion that the psychological environment and the psychological person are subject to the social influences of the teacher. The "suggestive set-up" evolved through the behavior in which the psychological person experiences the learning material through various delivery modalities.

Lozanov (1971) reported results of several univariate studies dealing with a "suggestive" and "accelerative" language training method. He stated that the material to be presented verbally needs to be coordinated carefully with the rhythm of the music and the rate of the students' breathing. This synchronization of student breathing to baroque musical rhythm and an equally rhythmic and simultaneous verbal presentation of the material to be learned was said to produce high recall of learned material.

Bancroft (1975) gave further details on the orchestration of these variables. For efficient learning she stated that didactic material should be presented during a brief interval, the time span between inhalation and exhalation of breath. Bancroft also reported that Lozanov used the following time arrangement for breathing: roughly two seconds for inhaling, holding breath for about four seconds, and exhaling in around two seconds. This eight second breathing schedule was matched to the rhythm of the music and the material to be learned was presented verbally only during the holding of breath. Thus, the rate of presentation was about one item every eight seconds. The experimenter or teacher had four seconds to utter the stimulus words or sentences.

Benítez-Bordón began investigations into the Lozanov method of learning in 1971. Two pilot studies were carried out for the teaching of introductory Spanish at the college level. Both studies lasted two weeks with four hour daily classes for five days a week. Significant pretest to posttest gains were shown as a result of the treatment since no students in these classes had Spanish before the class. However, these classes were small in comparison with regular classes in foreign language at most colleges and universities. Results and methodology are reported in Benitez-Bordon (1974).

Schuster (1972) evaluated the method in conjunction with teaching Spanish at a college level. He reported an acceleration of three to one (compared to a control group) with which Spanish could be taught. Both experimental and control sections lasted one academic quarter; the control group completed all material planned for the quarter three times slower than the experimental group, but students in both groups achieved the same amount of learning.

Method

Subjects. Thrity-two undergraduate students volunteered for this experiment. Their ages ranged from 19 to 26 years, with a mean age of 21. Half were females and half males. None had previously had formal training in Spanish or had lived in a predominately Spanish speaking environment.

Design. This study used a between subject full factorial analysis of variance design. There were three independent variables: (a) suggestion, (b) breathing, and (c) music. There were eight treatment cells, with four participants per cell (two males and two females in each).

Suggestion was operationalized as verbal messages and instructions dealing with three phenomena: (a) setting up an expectation that learning will take place, (b) instruction in the use of imaginal meditational procedures, and (c) an indirect suggestive atmosphere conductive to learning. The experimental procedure was as follows for subjects in the suggestion - present condition. Participants were asked to come in one hour before the scheduled time. The senior experimenter met them in a lounge near the experimental room, where he proceeded to introduce himself as a bilingual member of the university staff doing research in learning, and investigating the learning of foreign language. He also related some aspects of his foreign background to the participants. Students in turn were asked to introduce themselves and give information on their backgrounds.

The experimenter then proceeded to present a twenty minute lecture on Lozanov (1971, 1976) style learning. This lecture contained direct suggestive messages that learning takes place more effectively if participants did not try hard to learn. Rather, it was indicated to them that they should use their imagination as they received each word and were visualizing it in front of them. How this was to be done should be of their own choosing, but should involve a clear image of the spelling of the Spanish word.

It was further suggested that, if this procedure were followed, it would be easy to recall meanings and spelling of the Spanish words whenever tested. The experimenter declared that the experiment was simple and uncomplicated and that data from pilot studies involving the Lozanov-style teaching of Spanish as a foreign language indicated that people tended to retain about 90% of all material learned in class.

They were also told that the experimenter would be going over the words in a careful and dramatic fashion. This would involve clear utterances of all Spanish-English pairs pronounced in one of three ways: high volume of voice, normal voice, or whispering. It was also indicated that this had been found to help in the retention of the words.

Once the lecture was over, participants were given ten minutes to move about and relax before entering the experimental room. The experimental room was a regular classroom with lounge-type chairs and indirect lighting. The experimenter then walked into the room wearing a white experimental jacket and the session then began.

In conditions where suggestion and breathing were manipulated, a brief explanation of the breathing procedure was made, followed by 20 minutes practice of the procedure. Only after the suggestion and breathing training sessions have taken place were the participants allowed into the experimental room.

Breathing was operationalized in a smiliar fashion as decribed by Bancroft (1975). Students were trained to inhale to a count of two, hold their breath to a count of four, and exhale to a count of two. This breathing schedule was repeated throughout the presentation for all 50 paired associates.

Music was defined as a baroque musical piece of approximately metronome 60 rhythm (60 beats/minute). Parts of compositions by J. S. Bach and Vivaldi were used; these selections were recorded on a 30 minute tape and a stereophonic system was used to broadcast the music into the experimental room in all conditions involving music.

Procedure. The independent variables were manipulated and integrated as follows. Subjects were exposed to one of these eight experimental conditions:

(1) *Absence of independent variables*. Paired Spanish-English stimuli were presented orally at the rate of one pair every four seconds, with four seconds interval in between. Every pair was read out loud in a normal tone of voice. Participants followed visually the experimenter's presentation on a mimeographed list of the same stimuli pairs.

(2) *Music only*. Paired associates were presented orally in the same manner and at the same rate as in the no-variables condition. Music was played during the learning session only but the oral presentation was not synchronized.

(3) *Breathing only*. Participants were trained first to breathe at the 2:4:2 rhythm already described. Paired associates were presented in the same fashion and at the same rate as described above, but breathing and presentation were not synchronized.

(4) *Suggestion only*. All participants went through the suggestion session in the lounge and then were given the paired associates at the rate of one every eight seconds. In this condition, the presentation was made in a dramatic, normal, or whispering voice. One pair was uttered in a high volume level, the next in a normal voice, etc.

(5) *Suggestion and music*. Once the suggestion was completed, participants were taken to the experimental room where each paired associate was uttered once in a normal voice per eight seconds. Music was played in the background.

(6) *Suggestion and breathing*. The suggestion session was carried out and followed by a breathing training session. Once completed, participants were exposed to the paired associates stimuli once evey eight seconds with the dynamic presentation synchronized to the breathing as already described.

(7) *Music and breathing*. Participants were trained to synchronize their breathing to the music as described above. They were then exposed to all stimuli at the prescribed rate with presentation of material synchronized to the matched breathing and music rhythm.

(8) *Suggestion and breathing and music*. The suggestion and breathing-music synchronization training sessions were carried out first. Participants then moved into the experimental room, where paired associates were presented at the rate of one per every eight seconds. Each presentation matched the four second breath-holding interval, while music played and provided a rhythm for counting.

Learning material. Fifty paired associates, Spanish noncognate words with English one word translation, were used in this experiment. These words were selected from a pool of 500 words established for this experiment. The experimental list of paired associates was mimeographed and made available to all participants in all conditions as a visual aid to accompany the oral presentation. All sessions lasted no more than 15 minutes.

Dependent variables. Two criteria were used, an immediate test of acquisition and a six-week delayed test of retention. Scores used were the number of words in the non-stimulus language remembered and written correctly in the list of 50 words for each criterion. Half of the stimulus words in the recall test were in Spanish and the other half in English. Spanish stimulus words in the first (recall) test were presented in English in the second (retention) test, and vice versa.

RESULTS AND DISCUSSION

Data for the acquisition criterion will be discussed first, followed by data for the retention criterion six weeks later.

Acquisition. The analysis of variance summary for the effects of suggestion, breathing, and music on the number of words right in the immediate test of acquisition following a learning session is shown in Table 1. All of the main effects of suggestion, breathing, and music were significant ($p < .01$), as well as the interaction of breathing and music.

The significant interaction of synchronized breathing and orchestrated music on the number of words correct in the test of acquisition is shown in Figure 1. The cumulative interaction of these two variables is of interest as the best condition for learning was when the words had been presented in an orchestrated fashion with the pattern of background music; and, in addition subjects had been requested to synchronize their breathing with the music and requested the pattern of word presentation.

The averages by level of the significant effects in the test of immediate acquisition are shown in Table 2. The practical effect of the three independent variables was that suggestion showed a 60% improvement over the no-suggestion condition. The synchronized breathing condition showed a 47% improvement over the non-synchronized breathing condition and the orchestrated music condition showed a 25% improvement over the non-orchastrated presentation condition. However, the best condition used both synchronized breathing and orchestrated music which resulted in 78% better immediate learning than the non-synchronized and non-orchestrated presentation condition.

Table 1. ANOV summary for the effects of suggestion, breathing and music on number of words right.

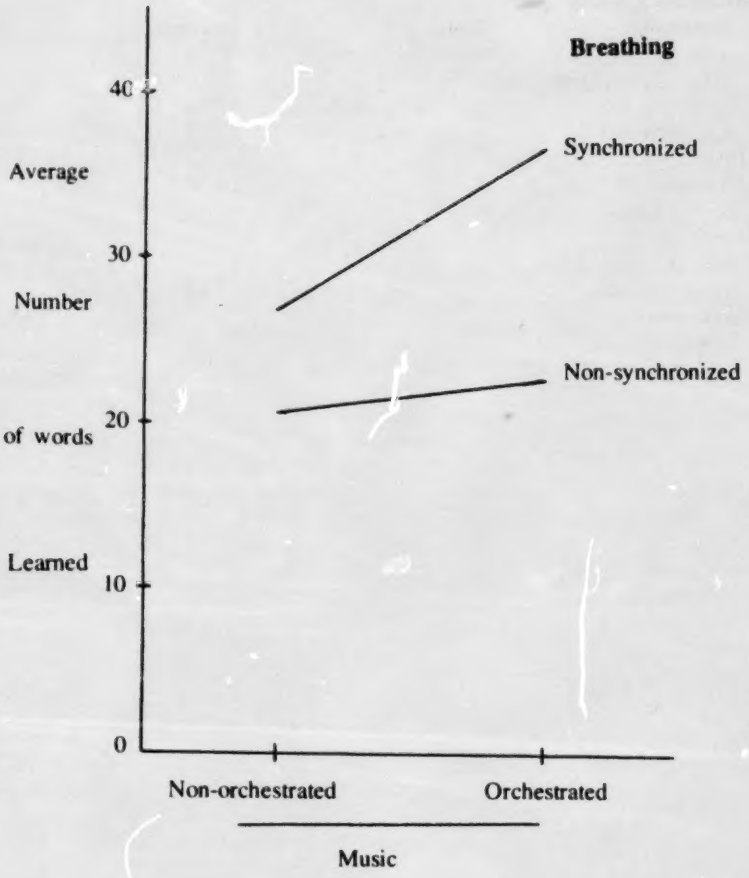
Source	MS	df	F
S, Suggestion	1212.78	1	186.28**
B, Breathing	850.78	1	130.68**
M, Music	294.03	1	45.16**
S X B	0.78	1	0.12
S X M	3.78	1	0.58
B X M	132.03	1	20.28**
S X B X M	16.53	1	2.54
Error	6.51	24	—
Total	86.03	31	

**$p < .01$

Table 2. Average by level of significant effects for number of words remembered immediately after learning.

Breathing X Music		
Breathing	**Music**	**Average**
Non-synchronized	Non-orchestrated	20.88
Non-synchronized	Orchestrated	22.88
Synchronized	Non-orchestrated	27.13
Synchronized	Orchestrated	37.25
Music		
Non-orchestrated		24.00
Orchestrated		30.06
Breathing		
Non-synchronized		21.88
Synchronized		32.19
Suggestion		
None		20.88
Pleasant easy learning		33.19

Fig. 1. The effects of synchronized breathing and orchestrated music on number of words learned.



Retention. Next are the results and discussion for the delayed dependent variable of number of words correct six weeks later. Table 3 presents the analysis of variance summary for the effects of suggestion, synchronized breathing and orchestrated music on the retention of words six weeks later. The main effects of the three independent variables again were significant (p.01) as in the immediate acquisition case. However, the triple interaction term was also significant. whereas there was only a trend for this interaction to approach significance with the acquisition criterion.

The significant interaction of the three independent variables on retention is shown in Figure 2. As expected, when suggestion was given a higher number of words was remembered. However, the interaction appears to be that when no suggestion was given, that synchronized breathing and orchestrated music interacted cumulatively in a positive fashion, whereas they tended to peak out when suggestion was given. It is evident that the best condition, however, was when all three variables were present.

Table 4 shows the averages by level of significant effects for words correctly retained six weeks after the learning session. Suggestion had a practical value; it resulted in 143% better retention than when suggestion was not given. Similarly, synchronized breathing and oral presentation resulted in 39% better retention than when breathing and words were not synchronized. When words and music were orchestrated, this resulted in 21% better retention than when music and words were not orchestrated or synchronized. Finally, in the interaction of these three variables, the best case when all variable were present resulted in 172% better retention than when all three variables were absent.

Table 3. ANOV summary for the effects of suggestion, synchronized breathing and orchestrated music on retention of words.

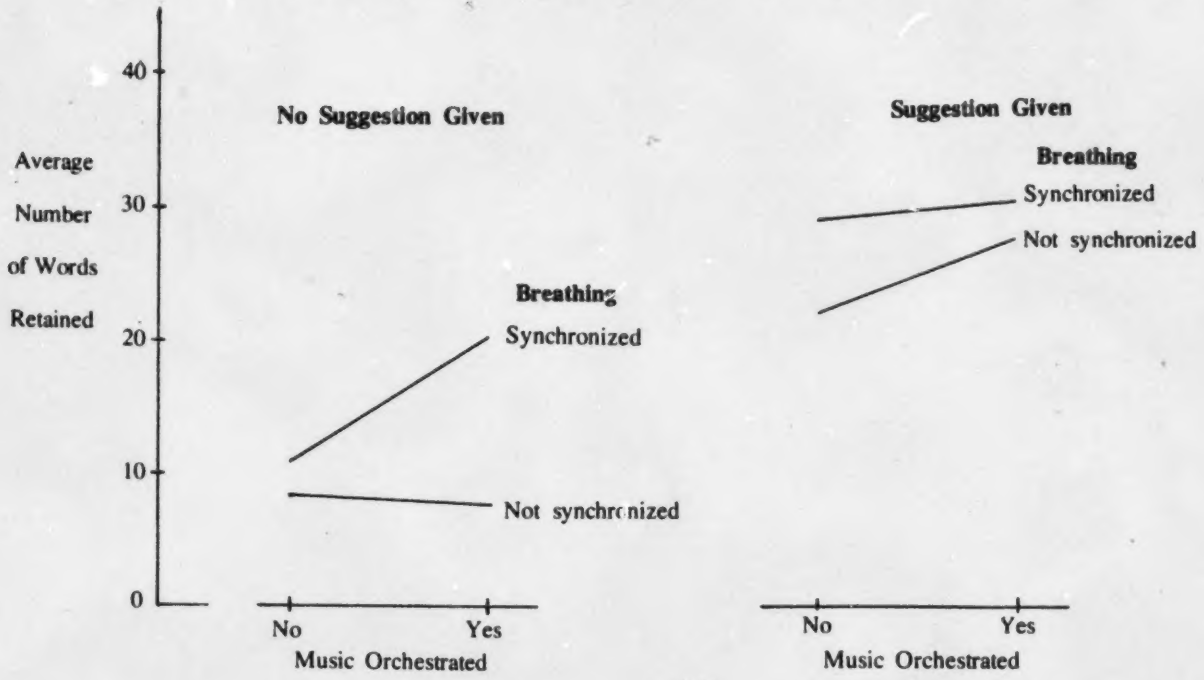
Description	df	MS	F
S, Suggestion	1	1937.53	337.58**
B, Breathing	1	318.78	55.54**
M, Music	1	116.28	20.26**
S X B	1	13.78	2.40
S X M	1	0.78	0.14
B X M	1	16.53	2.88
S X B X M	1	94.53	16.47**
Error	24	5.74	—
Total	31	85.03	

**$p < .01$

Table 4. Average by level of significant effects on number of words retained six weeks afterwards.

Effect and level			Average
Suggestion			
No suggestion given			11.7
Suggestion given			27.3
Breathing			
Breathing and words not snychronized			16.3
Breathing and words synchronized			22.6
Music			
Music and words not orchestrated			17.6
Music and words orchestrated			21.4
Suggestion, breathing & music			
Suggestion given	**Breathing synchronized**	**Music orchestrated**	
no	no	no	8.3
no	no	yes	7.5
no	yes	no	11.0
no	yes	yes	20.0
yes	no	no	22.0
yes	no	yes	27.5
yes	yes	no	29.0
yes	yes	yes	30.5

Fig. 2. The effects of suggestion, synchronized breathing and orchestrated music on the number of Spanish words retained six weeks later.



Pilot Study. A limited corroboration of these results had been done actually as a pilot project before the present experiment. Approximately one month before the study reported here was run, 18 students had been run with three of the eight experimental treatments reported in this main study. The same list of Spanish words was used as the criterion. The table below presents the three experimental conditions used along with their averages, standard deviations (SD) and *t*-ratios comparing them.

Group (N=6/group)	**Average**	**SD**	**t**
Suggestion, Synchronized Music and Breathing	40.00	2.38	3.99**
Suggestion, Synchronized Breathing Only	33.50	2.75	8.84**
No Suggestion, No Synchronization	16.67	3.25	12.95**

**p.<.01

The results of this pilot project corroborate the results in this study, that when all three variables are present that an improvement of 141% on a test of immediate acquisition resulted. This limited pilot project as corroboration thus leads one to believe that the variables reported as significant in the present study are indeed influential variables in the learning process.

The manipulation of variables considered relevant to the creation of an atmosphere conducive to learning the paired associates seems to have aided in the acquisition and retention of the learning material. That suggestion is operative and contributing to the results in the long run is evident from the apparent effects of the single and tandem interaction of all three independent variables. In acquisition, the triple effects of suggestion, breathing and music produced significant results. Likewise the interaction of breathing and music in a synchronized fashion led to better performance. In retention, the effects of the synchronization of all three independent variables were significant and their triple interaction proved to also contribute to the recall of the paired associates.

Placebo, expectancy, and suggestion are apparently important in learning material in a suggestopedic framework. Implicit experimenter communications, particularly important in self-management research (Orne, 1970), may be an equally important factor in eliciting results such as those obtained through the treatments used in this study. For example, to label a preintervention phase of data collection as "preparatory" may very well generate the expectation that

behavior changes should (or will) occur upon treatment. In the same vein, Bernstein (1970) reported that college students were much more fearful when their encounter with a rat was perceived as fear assessment rather than as an animal communication experiment.

The procedures in which anyone or combinations of independent variables were manipulated during these experimental conditions were highly ritualized. The environmental context in which learning took place was pleasant; the room was "nice," i.e., with drapes, carpet, nice chairs, and soft lighting. The sequence of the protocols was designed to produce a comfortable psychological environment as well. However, the experimenters did not attempt to control motivation, although all participating subjects had volunteered for the experiment.

Further research to isolate other dynamic components of suggestion is clearly indicated by the results. A more refined procedure that attempts to assess expectancy and motivation pre- and post-experimentally is also needed. This study showed that the internally operative variables associated with suggestopedia seem to be responsible for the learning that occurs in the course of instruction.

Summary. In conclusion it appears that in the learning and retention of Spanish words by college subjects, for whom English language is their native language, the three variables in this study have both individual effects and cumulatively interactive effects. Specifically Spanish is learned better, 1. When suggestions are given that the learning will be easy, pleasant and superior to past learning, 2. When the Spanish words are synchronized with the student's breathing, and 3. When the oral presentation of words to be learned is synchronized or orchestrated with soft background music. Further, these variables in this study interacted cumulatively such that learning was appreciably better when all three variables were present.

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A Preliminary Evaluation of the Suggestive-Accelerative Lozanov Method in Teaching Beginning Spanish

D. H. Schuster, Iowa State University

ABSTRACT

The purpose of this pilot study was to evaluate the Lozanov method as understood in 1972 for teaching college-level Spanish in a controlled situation. This method uses relaxation, unusual presentation and suggestion to accelerate learning. One section of beginning Spanish class used components of the Lozanov method and two other comparable sections utilized a conventional way to teach Spanish, but with the same textbook for all sections. Students in the experimental section had Spanish class for a single two hour session per week in contrast to approximately six contact hours per week in the conventional sections. For results, there were trivial and insignificant differences in achievement on the common lecture and laboratory final exams between sections. In addition, students in the experimental section did less homework outside of class. Thus, the Lozanov method resulted in a time saving of about 3:1 in teaching beginning Spanish.

Introduction. The purpose of this experimental pilot project was to evaluate the Lozanov suggestive-accelerative method of teaching with the conventional way of teaching beginning Spanish at the college level.

The Lozanov method (1971) of teaching utilizes aspects of suggestion, mind-calming, dramatic presentation, pleasant learning restimulation and unusual presentation styles for language training. The instructions utilized for the experimental section in this study are given in the appendix.

A rough English translation of Lozanov's book (1971), originally in Bulgarian, stimulated the author to attempt to evaluate this provocative method. Claims are made by Lozanov that the method can result in teaching conventional school subjects, as well as languages, many times faster than with conventional methods. This curiosity lead the writer to evaluate the method in 1972 in several pilot projects originally with R. B. Bordon. These preliminaries showed that the method apparently worked. Finally the author, even though a psychology professor, mustered enough courage to volunteer to teach an experimental section of beginning Spanish at the university level as the basis for this study in 1972.

Reports are available now from several researchers that the method works. Kline (1974) reported that the method worked well with the relaxation techniques with elementary children. Bancroft (1972) explored teaching French and English in Canada and reported that the method worked quite well. Philipov (1975) taught Bulgarian as a foreign language, again with notable results.

Procedure. One section of beginning Spanish students was selected as the experimental group. At the first class meeting they were told politely that they had all just volunteered for an experimental course. They were informed they could transfer to another section if desired. After explanations, almost no one did so. There were approximately 25 students in each section at the start of the quarter. The dropout or attrition rate for the experimental section was about the same as for the other two regular sections utilized for comparison. There were 19 students left in the experimental section at the end of the quarter. A total of 32 students remained in the other sections combined, roughly 16 in each section. Thus it was felt that a differential attrition between the conventional and experimental sections was not a factor in the results.

For the regular sections of beginning Spanish, students met four contact hours regularly per week, one hour per class. They also attended a two hour lab each week to practice Spanish. The experimental Spanish section with the Lozanov method met for a single two hour session per week at one of two times convenient to the students. Thus the experimental students had about one-third the usual amount of time to learn Spanish.

The evaluation procedure was to look at the final exam scores on the common lecture final exam and common laboratory final exam given to all three sections of beginning Spanish.

Results. Results are shown in Table 1. On the written final exam, the special methods students did insignificantly poorer than the regular students although the range of scores was approximately the same. This difference probably would have been significant with considerably more students in each section. The second finding of interest is that the special methods students did as well as the regular class students on the common lab exam presented orally.

Table 1. Means and standard deviations of exam scores for Regular Spanish students (n = 32) and Experimental Spanish students (n = 19)

Exam and Section	Average	S.D.	t[1]
Written final			
Regular sections	75.41	18.92	1.96
Experimental section	64.32	19.54	
Spoken (lab) final			
Regular sections	7.63	1.83	0.33
Experimental section	7.79	1.36	

[1] No *t* value significant at the 5% level.

The instructor also used a student evaluation questionnaire of twenty items plus an additional 16 items to gain more information from only the experimental students about their reactions to the course. The following comments from this evaluation appear noteworthy:

1. The experimental students all read the text assignments once, and about half of the students reviewed them as well.
2. They reacted about the same on the average to this special system as they would to any other university teaching system, namely neutral.
3. About 50 percent reported that they put in less time than they would have normally for a same credit course, and the rest studied about the same amount.

Discussion. It appears that the students in the experimental Spanish section learned Spanish about as well as students in the two regular Spanish sections but in about one-third the usual time. This result supports what others have reported, namely that the Lozanov method does accelerate learning appreciably.

Alternate explanations for this result should be considered. It appears the special section students did not make up for reduced class time by studying more outside of class. Nor can results be attributed to differences in assignment of students to classes. The assumption was made at the start that students volunteered to take Spanish at a time convenient to them or in many cases the computer simply assigned them to take Spanish at a given time and thus wound up at random in one of the three sections of beginning Spanish. Thus, it is felt that there was no difference in potential achievement of the students at the start of the quarter among the three sections. The results reported here show that there were no achievement differences significant at the end of the quarter. In view of the three to one time factor, it appears that the method indeed has considerable potential.

This study reflects the author's knowledge about the Lozanov suggestive-accelerative teaching method in 1972. Studies presently in progress indicate that gains greater than a 3:1 speeding are possible.

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Appendix

DIRECTIONS FOR EXPERIMENTAL SECTION OF SPANISH FL151, 9-72.

"In this section of first quarter Spanish, we are going to use an experimental method developed by Dr. Georgii Lozanov at the Research Center for Learning, University of Sophia, Bulgaria. Dr. Lozanov has spent the last twenty years developing this method which he calls "Suggestopedia" or "Suggestive hypermnesia." He has applied the results with considerable success to teaching these foreign languages: German, Russian, Spanish, English, Greek, Bulgarian, French and Hindi. In addition, he has also tried it with several non-languages subjects, but the results have not been reported yet for mathematics, algebra, geometry, art and music.

"The essence of his technique is that it uses an unusual combination of yoga for teaching physical relaxation and mental concentration, suggestive principles to strengthen a person's ego and expand his memory capabilities plus relaxing music while the language material is presented verbally.

"It is strongly urged that you make an effort to attend every class session. As you know, you will be here for just half the amount of time for a regular four credit course. That is, you will be in class just one two-hour session a week, either Tuesday morning or Thursday morning. Since you will just have ten sessions, attendance is critical. Absences can be made up especially if you are absent on Tuesday merely by coming Thursday. If you are in the Thursday session, then you should make an effort to anticipate your absences by coming to the Tuesday class. There will be a control quiz given every class session. At the beginning it is expected that there will be a considerable variability in ability to remember the material and get it right. However, considerable improvement is to be expected so that by the end of the course, you should be getting something over 90% of the words, phrases, and sentences correct.

"There is a very relaxed aspect to the reverberatory memory that we will be dealing with in this course. It has been proven many times that when a person under deep hypnosis is regressed to some early incident in his life such as his fourth birthday party, that he has a nearly perfect memory for events that happened at that time. For instance, the person regressed to his fourth birthday party not only could tell you the color of the cake and how it tasted, but how many people were present, what they were wearing, what they looked like, their emotional state, whether they were happy, sad, or crying, but also the various sounds present in the room, the feelings and how things felt to touch that day. The same type of unusually large memory can be demonstrated in the waking stage with special techniques. The special techniques will be developed here and you'll be asked to practice them during the course.

"Suggestions play a large part in the development of this special memory. However, there's going to be no hypnosis during this course. Nobody is going to put you in a trance and tell you to do things you wouldn't do. But, suggestion does occur in our everyday living at a subtle level. For instance, there is the research report by Motts (1970) who studied the effect of keeping suicides off the front page of a large Detroit newspaper for approximately two-thirds of a year. The suicide rate during this 268-day period when the newspaper stopped

printing suicides was significantly lower than the suicide rate during the previous four years or later. Another example of the subtle suggestive atmosphere in which we live is that of the current rash of skyjackings. Airplanes have been around for some 70 years and commercial air travel for about 50 years. But only in the last few years when considerable newspaper emphasis has been given to skyjackings have we had so many. Why didn't we have them before? Very simple—nobody had tried it first and had been written up in the newspaper headlines as a hero. As a result of this pervasive atmosphere surrounding us, all of us have our own standards or norms for what is a typical memory and learning rate. One of the things that we will be undoing in this course is to undo the self-suggestion that all of us have given ourselves for what is "normal" memory and learning ability, and getting at the considerably much larger memory reserve capacity of the human mind.

"Our pilot studies in applying this method to teaching Spanish at this university have been very encouraging. Specifically, the first pilot project showed that students improved from near chance level to approximately the level achieved by students at the end of the conventional first quarter Spanish course, but after spending only twenty hours of effort with this Lozanov method. Thus, the resultant saving was at least one half and possibly more, since no outside effort was required. These results were very encouraging. They are typical, but we expect that you will be able to do even better than this because now we know considerably more about the Lozanov method and how to apply it.

"This course will have a positive affect on you. You will find that it is a pleasant experience and considerably different than anything else you have experienced before in your life. Soon you will learn how to relax and concentrate, and along with that will come improved memory results. You want to do this, as you volunteered for this course, wanting to learn Spanish in half the usual time. Actually we expect you will learn Spanish somewhat better than was demonstrated in our pilot projects. It is ethically OK to learn this way, but you will have to make an honest but efficient effort to learn Spanish to earn the usual course grade. There will be control tests and quizzes given every class session.

"We are going to be doing some yoga exercises (Devi, 1948) to relax you physically and help you concentrate mentally. The physical exercises are bendovers, whole body tension, tension wave and relaxation, three turtle exercises, side bends, and deep breathing. (5-10 minutes). The mental concentration exercises consist of the white cloud imagination exercise and the in-out watching-one's-breathing exercise. (5-10 minutes).

"Learning Spanish is going to be a game and an enjoyable experience for you. Take your Spanish name given you and use it to project yourself into a situation such as in a Latin American country where you are speaking Spanish and having a lot of fun. Take a look at the faces of people who you would be speaking to, watch their reaction when you speak Spanish. Do this right now (1 minute).

"At this point, think about the first time in your life when you were learning to read, that you realized that you liked reading and enjoyed it. The time span is probably somewhere between when you were six and nine years old. Be there again and find yourself enjoying learning to read. Now take your Spanish name, change this same enjoyable English experience and translate it into Spanish. Realize that it is fun in the same way. It is pleasant and relaxing. Let these words sink into your mind. Your mind absorbs the words that you are reading.

"Shortly we are going to be reading Spanish words to you, spelling them, translating them into English, and repeating them again in Spanish. Pretend that are are attending a concert and get into the same frame of mind. At a concert you would be quiet; you would expect to have a good time and you would be attentive. So concentrate in a relaxed fashion, cooperate and listen. Flow along with the material, get its true meaning, concentrate on the overall meaning and let the details fall into place in your subconscious mind.

"Settle yourself into your seat, squirm, relax. You will find that keeping your spine straight and your feet squarely on the floor helps to keep you in a relaxed state for a long time. Keep your head up.

"Feel yourself back in that first happy learning experience again. Your mind is clear, alert, you feel good and whole. Now you are back in school when you first learned to read and enjoyed it. Now use your Spanish name and see yourself reading and enjoying Spanish. You are ready to learn. You want to learn. You want to be here. Your mind is inquiring, active, but you feel comfortable and at ease. The material is interesting to learn and easy. You want to learn the words so that you can use them in the practice session later today or next time.

"Feel free to scratch or move a bit, but make yourself comfortable again quickly and get your mind back in this relaxed state. You will find it easy to sit still for a long time. You find yourself very interested in what I am saying. Listen very clearly to my voice. The instructor's voice is pleasant and relaxing and you find that you like the sound of it. The voice will help you learn and will reach you easily. The words will come to you by themselves and remain in your memory. Listen to the overall meaning of the words, let the details sink in. OK—here we go."

One half hour of a native Spanish person's speaking Spanish words and phrases with English translations on the casette tape recorder followed. The casette reel was flipped over and with the repeating of the last paragraph above, the recorder was started again. The last part of the period was spent in reviewing the first material with accompanying music as time permitted. Instructions for this last session were as follows: "Concentrate on the music; let the words sink in. If you find yourself dozing, return simply to the music and the words."

At the end of the learning session the instructor then said, "That is all the instruction for today. Let's take the remaining five minutes for further relaxation. Watch your breathing, say "in" to yourself mentally as you inhale and "out" as you exhale. At the end of this time you will be refreshed, relaxed, alert, and very much alive. You will feel confident in your usage of Spanish.

When you want to use your Spanish, relax, remember this comfortable learning situation and the words will come to you as desired. All of the words that you have heard today have gone into your mind and will come to you by themselves when needed. All right, this is the end of the session."

The instructions to the person(s) recording the material on tape were as follows: "Read the material authoritatively and pleasantly. Read as if you were telling a bedtime story, calmly and easily. Say the word or phrase in Spanish, spell it (if a word), translate into English and repeat it in Spanish. Try to coordinate your speaking with a normal breathing rhythm. Allow five seconds between different stimuli. In this five second pause, at times echo the words in a whisper two to three times immediately after the word and before the next word or phrase is presented."